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HYDROACOUSTICS INC.

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U.S. Patent and Trademark Office
Patent Examining Operations

Applicants: John V. Bouyoucos
Dennis R. Courtright
David P. Hollinger
Serial No. 09/882,329
Filed: 6/15/2001
Title: Sonar System Especially for Shallow Water Application Such as in Littoral
Environments
Examiner: Ian J. Lobo
Art Unit 3662
Docket: HA-118CV

RESPONSE TO ACTION OF 11/28/2003

To: Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Please amend the second full paragraph of page 4 by changing in line 4, "9" to "1" to correct a typo error.

A fresh copy of page 4 is enclosed with the error corrected.

Amend the claims as indicated on the attached pages where deleted words are crossed off and added words are underlined.

REMARKS

The withdrawal of the 35USC112(2) rejection of claim 5 is requested in light of the amendments which clear up the grammatical errors.

The rejections under 35USC102 on Hundt (4,998,224) and Sacha (5,555,532) are traversed in that their patents transmit sub-pulses sequentially in different bands, ultimately to cover the entire band of interest. By contrast; an extended broadband transmission covering a decade in frequency is provided by the airgun array. In the prior art each sub-pulse is analyzed separately and sequentially; in case of Hundt (col 4 line 65 - col 5 line 5) for the sub-pulse return of greatest Doppler. Similarly, Sacha (col 7 lines 45 to 57) looks at the different bands to derive the Doppler cross section.

Since applicant's claims cover use of the entire transmission bandwidth and the simultaneous selection of outputs from sub-bands having best joint combination (target and propagation) responses, or strongest echo to background return; these references do not anticipate what is described and claimed by applicants.

Smith (5,541,893) also does not detect a sub-band(s) with strongest responses. Rather a special summation circuit (1.7 or 2.7) is used which looks for variations between the

bands to discriminate artifacts from targets (col 3 lines 25-36; col 4 lines 45-55).

Such processing as in Smith does not anticipate applicant's claimed means or method step which selects best response(s) or strongest response(s).

Withdrawal of the rejections and allowance is respectfully urged.

Respectfully submitted,



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Enclosures: Amended page 4, and set of original; amended, and new claims

I certify that I mailed this document and its enclosures to the Commissioner for Patents at the address given above, by 1st Class U.S. Mail, postage paid on December 17, 2003.



Michele Childs